(19) Canadian Intellectual Property Office

Office de la Propri,t, Intellectuelle du Canada (11) CA 2 495 932

(13) A1

An Agency of Industry Canada

Un organisme d'Industrie Canada (40) **19.02.2004** (43) **19.02.2004** 

(12)

(21) 2 495 932

(51) Int. Cl. 7;

A61K 35/78, C11D 3/38

(22) 12.08.2003

(85) 11.02.2006

(86) PCT/US03/025090

----

(87) WO04/014416

(30)

60/403,169 US 12.08.2002 60/403,004 US 12.08.2002 (72)

ABRAHAM, SHIBU (US). BOROKHOV, OLGA (US). LUTZ, PATRICK JAY (US).

(71)

LONZA INC., 17-17 Route 208, FAIR LAWN, XX (US).

(74)

G. RONALD BELL & ASSOCIATES

(54) COMPOSITIONS ANTIMICROBIENNES

(54) ANTIMICROBIAL COMPOSITIONS

(57)

The present invention provides an antimicrobial composition comprising an antimicrobial effective amount (such as a preservative, bactericidal, and/or fungicidal effective amount) of a mixture comprising at least two of: (a) lemon grass oil; (b) cinnamaldehyde, cinnamon oil, cinnamomum cassia, cinnamon extract, cassia leaf oil, 3,4-dihydroxycinnamic acid or salt thereof, or a mixture thereof; (c) sorbic acid, or a sait thereof; (d) erythorbic acid, or a sait thereof; (e) benzoic acid, or a salt thereof; (f) arabinogalactan, galactoarabinan, or a mixture thereof; (g) a hexahydro-iso-alpha-acid, tetrahydro-iso-alphaacid, or a mixture thereof; (h) Achillea fragrantissima oils, Santolina fragrantissima oils, Forssk oils, Lavender cotton oils; and (i) Glucono Delta Lactone. The present invention also provides a product (preferably a product other than a foodstuff, pharmaceutical, or cosmetic) comprising a preservative effective amount of cinnamaldehyde or a mixture of cinnamaldehyde and one or more alkanol-dialkyl hydantoins.



Office de la Propriété Intellectuelle du Canada

Un organisme d'Industrie Canada

Canadian Intellectual Property Office

An agency of Industry Canada

CA 2495932 A1 2004/02/19

(21) 2 495 932

## (12) DEMANDE DE BREVET CANADIEN CANADIAN PATENT APPLICATION

(13) A1

(86) Date de dépôt PCT/PCT Filing Date: 2003/08/12

(87) Date publication PCT/PCT Publication Date: 2004/02/19

(85) Entrée phase nationale/National Entry: 2005/02/11

(86) N° demande PCT/PCT Application No.: US 2003/025090

(87) N° publication PCT/PCT Publication No.: 2004/014416

(30) Priorités/Priorities: 2002/08/12 (60/403,004) US;

2002/08/12 (60/403,169) US

(51) Cl.Int.<sup>7</sup>/Int.Cl.<sup>7</sup> A61K 35/78, C11D 3/38

(71) Demandeur/Applicant: LONZA INC., US

(72) Inventeurs/Inventors: LUTZ, PATRICK JAY, US; BOROKHOV, OLGA, US; ABRAHAM, SHIBU, US

(74) Agent: G. RONALD BELL & ASSOCIATES

(54) Titre: COMPOSITIONS ANTIMICROBIENNES (54) Title: ANTIMICROBIAL COMPOSITIONS

## (57) Abrégé/Abstract:

The present invention provides an antimicrobial composition comprising an antimicrobial effective amount (such as a preservative, bactericidal, and/or fungicidal effective amount) of a mixture comprising at least two of: (a) lemon grass oil; (b) cinnamaldehyde, cinnamon oil, cinnamonum cassia, cinnamon extract, cassia leaf oil, 3,4-dihydroxycinnamic acid or salt thereof, or a mixture thereof; (c) sorbic acid, or a salt thereof; (d) erythorbic acid, or a salt thereof; (e) benzoic acid, or a salt thereof; (f) arabinogalactan, galactoarabinan, or a mixture thereof; (g) a hexahydro-iso-alpha-acid, tetrahydro-iso-alpha-acid, or a mixture thereof; (h) Achillea fragrantissima oils, Santolina fragrantissima oils, Forssk oils, Lavender cotton oils; and (i) Glucono Delta Lactone. The present invention also provides a product (preferably a product other than a foodstuff, pharmaceutical, or cosmetic) comprising a preservative effective amount of cinnamaldehyde or a mixture of cinnamaldehyde and one or more alkanol-dialkyl hydantoins.



